

REMARKS

Applicants appreciate the Examiner's thorough review of the present application, and respectfully request reconsideration in light of the preceding amendments and the following remarks.

Claim Amendments/Status

Independent claims 1 and 7 have been amended to clarify the meaning of "precalculating." Specifically, claims 1 and 7 now recite "storing the one or more deviation-expected paths in a memory before the mobile object deviates from the navigation path" and "selecting revised path data ... among the one or more precalculated deviation-expected paths stored in the memory to thereby provide the revised navigation path to the display unit after a present position of the mobile object deviates from the navigation path." This claim amendment finds solid support in paragraphs 0036, 0042 of the published specification. Dependent claims 4-5 and 11 have also been amended accordingly to follow up with the amendments to the respective independent claims. No new matter has been introduced through these amendments.

Rejection under 35 USC § 103

Claims 1-5 and 7-11 stand rejected under 35 USC 103(a) as being unpatentable over *Ito* (U.S. Patent No. 6,249,740 B1). Applicants respectfully traverse this rejection for at least the following reasons.

As mentioned above, amended independent claims 1 and 7 now recite, *inter alia* "storing the one or more deviation-expected paths in a memory *before* the mobile object deviates from the navigation path" and "selecting revised path data ... among the one or more precalculated deviation-expected paths stored in the memory to thereby provide the revised navigation path to the display unit *after* a present position of the mobile object deviates from the navigation path" (emphasis added).

Advantageously, because the ECU of the claimed invention precalculates one or more deviation-expected paths, and stores the data in the memory before the driver deviates from the original navigation path, the driver can be informed of a revised navigation path immediately based on the stored deviation-expected paths. This can be of great advantage to a navigation system because quickness in redirecting a driver to a revised path is one of the most important factors to evaluate the performance of the navigation system. Applicants respectfully note that the ECU of the claimed invention is required to store one or more *deviation-expected paths* (i.e., not only the navigation path) in the memory before deviation.

Ito relates to a communication navigation system in which data is transmitted and received between a navigation base apparatus provided at a navigation base and a vehicle navigation apparatus provided in a vehicle. In order to reduce the amount of data to be transmitted between the navigation base and the vehicle navigation apparatus (*see* col. 2, ll. 60-63, col. 3, ll. 4-8, etc.), *Ito* suggests transmitting the approved route (*see* col. 16, ll. 49-52) and the data only on the surrounding areas of the departure point, course-change points, and destination (*see* col. 18, ll. 55-61). Referring to Fig. 4 of *Ito*, only the data on the approved route R1-R9 and the surrounding area A1-A4 of the departure point PD, course-change points C3 and C6, and the destination PA is transmitted to the vehicle navigation apparatus. Applicant respectfully submits that no concrete and particular deviation-expected paths are precalculated *before* deviation in *Ito*.

In this regard, the Examiner indicates on page 2 of the instant Office Action that *Ito* discloses calculating deviation-expected paths in col. 22, line 20-28. However, Applicants respectfully note that the cited paragraph of *Ito*, which is reproduced below for the Examiner's convenience, describes a process of searching a return route performed by the navigation base apparatus 150 *after* deviation.

In this connection, FIG. 15 shows the steps of the process *carried out by the system control section 152 of the navigation base apparatus 150* for establishing a return route. This process may be carried out, for example, between Steps S61 and S62 of the flow chart shown in FIG. 12. Specifically, in the first step shown in FIG. 15, a judgement as to whether or not the length L3 of the entrance road R3 to the course-change point C3 is larger than the preestablished guidance start distance GL is made in the system control section 152 (Step S70). At this step, if the length L3 is determined to be larger than the distance GL (i.e., a "NO" judgement at Step S70), there is no risk of the driver changing

course at the intersection C2 by mistake, and therefore no return route is established. However, if the length L3 is determined to be smaller than the distance GL, there is a risk that the driver will make a course change at the intersection C2 by mistake. For this reason, a judgement is made to determine as to whether or not there is any return route (Step S71). Namely, a judgement is made to determine whether or not the intersection C2 connects with any roads that run in the same direction as the exit road R4 of the course-change point at the intersection C3. (Emphasis added).

Further, in *Ito*, any return route calculated according to the above process needs to be transmitted from the navigation base apparatus to the vehicle navigation apparatus (*see* col. 21, ll. 55-61). As such, *Ito* does not discuss storing deviation-expected paths in a memory *before* deviation.

Meanwhile, *Ito* discusses utilizing the route/guidance data that is stored in the vehicle navigation apparatus in Fourth Modification (*see* col. 25, line 33 – col. 26, line 43). However, *Ito* merely suggests utilizing, for example, the data on the surrounding areas A1, A2, and A3 that has already been transmitted to the vehicle navigation apparatus, without a need to receive the data on the surrounding areas from the navigation base apparatus again. However, as discussed above, *Ito* intends to transmit only the data on the approved route and the surrounding areas at the beginning and, therefore, it is clear to one of ordinary skill in the art that *Ito* does not have any *concrete and particular deviation-expected paths* that is stored in the memory *before* deviation.

For the reasons stated above, *Ito* fails to teach or suggest at least the “storing the one or more deviation-expected paths in a memory *before* the mobile object deviates from the navigation path” and “selecting revised path data ... among the one or more precalculated deviation-expected paths stored in the memory to thereby provide the revised navigation path to the display unit *after* a present position of the mobile object deviates from the navigation path,” as required by amended independent claims 1 and 7. Therefore, it cannot be achieved from *Ito* that the driver can be informed of a revised navigation path immediately by virtue of the concrete and particular deviation-expected paths stored in the memory *before* deviation.

Accordingly, independent claims 1 and 7 are patentable over *Ito*. Claims 2-5, 8-11, and 13-14 depend from claim 1 or 7, include further limitations, and are patentable over *Ito* for at least the reasons advanced above with respect to claim 1 or 7. Accordingly, withdrawal of this

rejection is respectfully requested.

Conclusion

All objections and rejections having been addressed, it is respectfully submitted that the present application should be in condition for allowance and a Notice to that effect is earnestly solicited. Early issuance of a Notice of Allowance is courteously solicited.

The Examiner is invited to telephone the undersigned, Applicant's attorney of record, to facilitate advancement of the present application. To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 07-1337 and please credit any excess fees to such deposit account.

Respectfully submitted,
LOWE HAUPTMAN HAM & BERNER, LLP

/Yoon S Ham/
Yoon S. Ham
Registration No. 45,307

Customer Number: 22429
1700 Diagonal Road, Suite 300
Alexandria, Virginia 22314
(703) 684-1111
(703) 518-5499 Facsimile
Date: June 18, 2009